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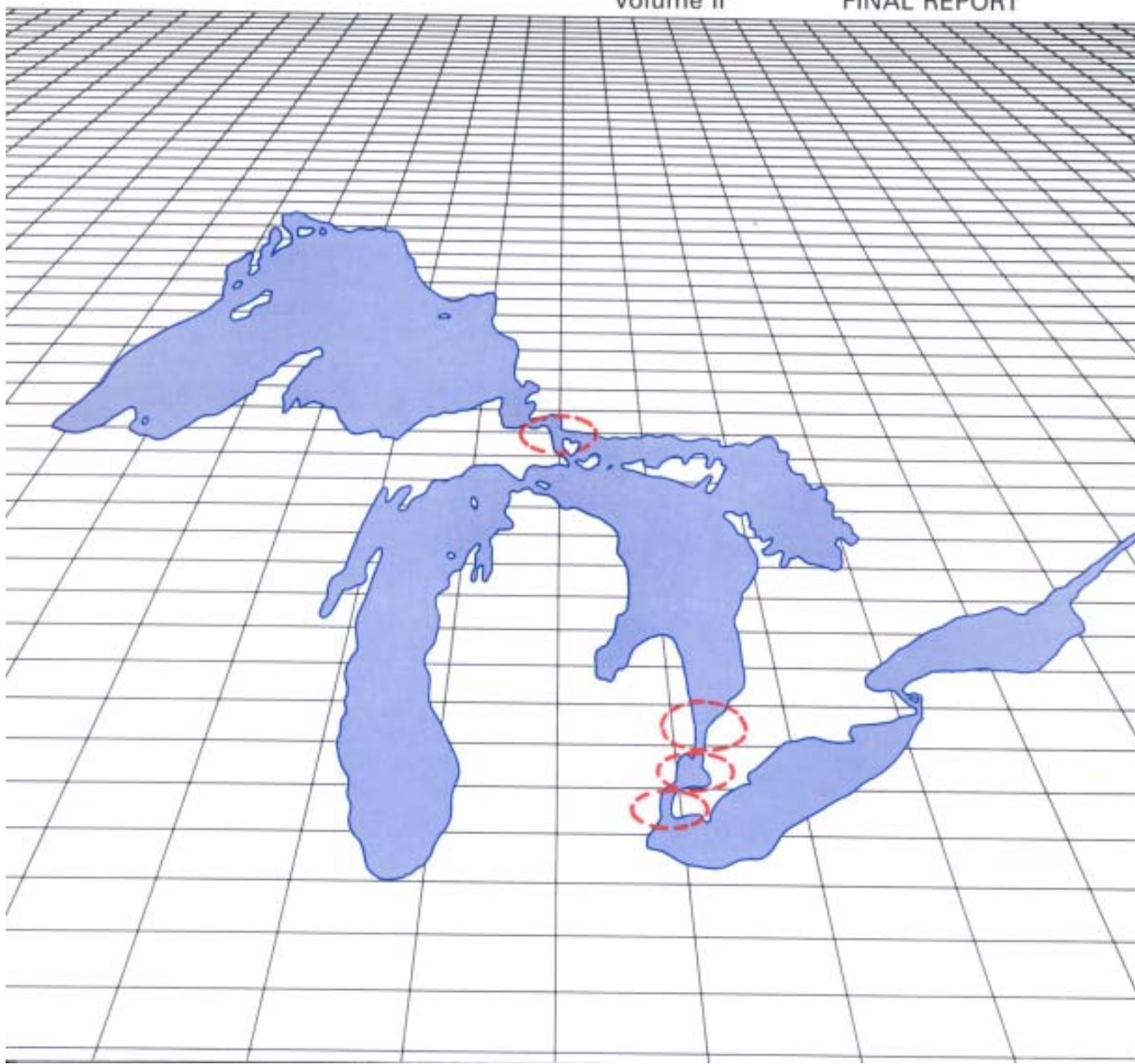


Environment
Canada

UPPER GREAT LAKES CONNECTING CHANNELS STUDY

Volume II

FINAL REPORT



**FINAL REPORT
of the
UPPER GREAT LAKES
CONNECTING CHANNELS
STUDY**

VOLUME II

DECEMBER 1988



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LETTER OF TRANSMITTAL

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On behalf of the Management Committee we are pleased to submit the final report and executive summary of the Upper Great Lakes Connecting Channels Study. The report is a comprehensive and detailed review of the project studies and their results.

Respectfully submitted, February 1989.

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A C K N O W L E D G E M E N T S

Many people contributed to the completion of this document. There were over a hundred principal investigators and associated staff who contributed the most essential ingredient to the study - the data and preliminary interpretations. Although too numerous to mention, the Management Committee of the Upper Great Lakes Connecting Channels Study extends thanks to all.

Members of the numerous committee, workgroup, task force and synthesis writing teams are listed in Appendix I. The Management Committee would especially like to acknowledge the members of the Activities Integration Committee. This committee co-ordinated the technical studies, chaired individual workgroups, and assisted with and directed the writing of the final report. These people include: Daryl Cowell (Canadian Co-chair), Vacys Saulys (U.S. Co-chair), A.S.Y. Chau, Tom Edsall, Yousry Hamdy, Tom Fontaine, John Moore, Paul Horvatin, Griff Sherbin, Rick Lundgren, Don Williams, Keith Rodgers, Wayne Wager and Bill Richardson (Appendix I).

The principal writers of the final report are: Yousry Hamdy, Diana Klemens, Barry Oliver, Pranas Pranckevicius, Paul Bertram, Paul Hamblin, David Kenaga, Cynthia Fuller, Daryl Cowell, Vacys Saulys and Wayne Wager. The overall editing of the final report was conducted by the Activities Integration Committee. The primary editor was Daryl Cowell with the assistance of Wayne Wager and Vacys Saulys. Again, the Management Committee extends their appreciation.

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P R E F A C E

This Report provides the major findings and recommendations of the Upper Great Lakes Connecting Channels Study (UGLCCS). The study was first announced as a U.S. Program in November, 1983 by then United States Environmental Protection Agency (U.S.EPA) Administrator, William Ruckelshaus. In July, 1984 it became a multi-agency U.S./Canada investigation of toxic chemicals and other environmental concerns in the Upper Great Lakes Connecting Channels. The study area included the Detroit, St. Clair and St. Marys Rivers and Lake St. Clair. The principal agencies involved were the U.S.EPA, Environment Canada, the Ontario Ministry of the Environment, Michigan Department of Natural Resources, U.S. Fish and Wildlife Service, U.S. Geological Survey, National Oceanic and Atmospheric Administration, U.S. Army Corp of Engineers, the City of Detroit, Fisheries and Oceans Canada and the Ontario Ministry of Natural Resources.

The UGLCC Study was organized such that the participating agencies could focus and co-ordinate their on-going studies in the four areas and identify priorities for new studies. All programs and individuals benefited from working together and sharing their individual strengths. The total cost of this study was approximately \$20 million. This included existing agency program funds as well as "new" money allocated to additional studies in the channels.

The impetus for this study was specifically for the improved regulatory management of point and nonpoint pollution sources in the four study areas. As such, the technical and management recommendations identified for each area are the key outputs of the study. It should be pointed out, however, that the regulatory agencies have not waited for the final release of this study before implementing controls. Numerous actions have been undertaken throughout the course of the study whenever investigations uncovered significant pollution sources and problems. For example, the total loadings of certain organic chemicals from Sarnia area chemical companies have been drastically reduced since late 1985 following the discovery of perchloroethylene puddles on the bed of the St. Clair River.

This report is volume II of a three volume set containing the complete output of the UGLCC Study. Volume I is an executive

summary describing the major study findings and recommendations.

Volume III is a compilation of the many principal investigator reports, workgroup reports and other supporting documents. Copies are on file with each of the participating agencies and with the International Joint Commission in Windsor, Ontario.

This volume (II) is the main report describing the results of the UGLCC Studies. It consists of five introductory chapters and four area chapters (one for each study area). The introductory material covers study purpose and organization, characteristics of the four study areas, regulatory guidelines and programs, the data quality management program, and modeling activities. The last four chapters present the findings for each study area using a comparable reporting format.

Detailed study area maps are provided in Chapter II. These, along with tables and other information in Chapters III, IV, and V, are intended as reference material for the reader in support of the area chapters.

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